

Appl No. 09/824,951

Reply to Office action of October 21, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-70 (Cancelled)

Claim 71 (New): A method for selecting a master switch from a stack of switches comprising a plurality of switches, comprising:

- determining whether at least one of the plurality of switches is an OSI Layer 3 switch;
- selecting the master switch from the plurality of switches, responsive to the determining step by selecting the OSI Layer 3 switch with the lowest switch identification; and
- selecting the master switch from the plurality of switches responsive to the determining step find no OSI Layer 3 switches by selecting a switch with the lowest identification number.

Claim 72 (New): A method according to claim 71, further comprising:

- adding a new switch to the stack;
- determining a topology map by the new switch;
- selecting the new switch as the master switch responsive to the new switch being an OSI Layer 3 switch and no other switch on the network being an OSI Layer 3 switch.

Claim 73 (New): A method according to claim 71, further comprising:

- adding a new switch to the stack;
- determining a topology map by the new switch;
- selecting the new switch as the master switch responsive to the new switch being an OSI Layer 3 switch having the lowest switch identification selected from a group consisting of the plurality of switches that are OSI Layer 3 switches.

Claim 74 (New): A method according to claim 71, comprising:

- joining together two partitions of the stack of switches
- determining whether at least one of the switches from the two partitions of the stack of switches is an OSI Layer 3 switch;

Appl No. 09/824,951
Reply to Office action of October 21, 2004

selecting the master switch from the two partitions of stack of switches, responsive to the determining step by selecting the OSI Layer 3 switch with the lowest switch identification; and
selecting the master switch from the two partitions of the stack of switches responsive to the determining step find no OSI Layer 3 switches by selecting a switch with the lowest identification number.

Claim 75 (New): A method for distributed OSI layer 3 packet processing for a stacked switch configuration having a plurality of switches, wherein at least two of the plurality of switches is an OSI Layer 3 switch and at least one of the plurality of switches is an OSI layer 2 switch, comprising:

assigning every OSI Layer 3 switch as a head router for itself; and
assigning every OSI Layer 2 switch to the OSI Layer 3 switch that is closest as a head router; and
assigning a one of the at least two OSI Layer 3 switches as a master switch for stacked switch configuration.

Claim 76 (New): A method according to claim 75, further comprising:

receiving an ARP request packet by an OSI Layer 3 switch that is not the master switch from a non-stack port;
sending a response to the ARP request packet, the response having the MAC address of the OSI Layer 3 switch as a source MAC address.

Claim 77 (New): A method according to claim 75, further comprising:

receiving an ARP request packet by a one of the OSI Layer 2 switches from a non-stack port;
sending a response to the ARP request packet, the response having the MAC address of the nearest OSI Layer 3 switch as a source MAC address.

Claim 78 (New): A method according to claim 75, further comprising:

sending an ARP request by a one of the plurality of switches, the sending step further comprising:

Appl No. 09/824,951
Reply to Office action of October 21, 2004

broadcasting the ARP request to all other switches in the stack;
wherein the other switches are responsive to the broadcast to sending a ARP request packet to their non-stack ports, the ARP, the ARP request packet having a route interface IP address as a sender IP address and a MAC address of the header router as the sender MAC address.

Claim 79 (New): A stacked switch system having a plurality of switches, the plurality of switches comprising:

means for maintaining a local switch database, the local switch database comprising the MAC address and port identification of MAC addresses learned locally; and

means for maintaining a remote switch database, the remote switch database comprising the MAC address and switch node identification of addresses learned through another switch node.

Claim 80 (New): A stacked switch system according to claim 79, further comprising:

means for receiving a unicast packet with an unknown address; and

means for broadcasting the unicast packet to all ports in the stacked switch system responsive to the means for receiving.

Claim 81 (New): A stacked switch system according to claim 80, further comprising:

means for broadcasting the address by a switch node knowing the address of the unicast packet responsive to the means for broadcasting.

Claim 82 (New): A stacked switch system according to claim 81, the means for maintaining a remote switch database further comprising:

means for updating the remote switch database with the address of the unicast packet and the switch node identification of the switch node knowing the address.

Claim 83 (New): A stacked switch system according to claim 79, further comprising:

Appl No. 09/824,951
Reply to Office action of October 21, 2004

means for maintaining a switch identification table containing the switch identification of switching nodes in the stacked switch system and corresponding ports utilized to reach the switching nodes.